



COMPACTION: WHAT'S IT DOING TO YOUR ROOTS?

Compaction can be a major impediment to sugarcane productivity. A penetrometer reading can give you a good handle on the hardness of your soil – but what does compacted soil really look like for sugarcane roots? A project being led by CSIRO, and funded by SRA, has revealed some images that illustrate what compaction can do to sugarcane roots.

These pictures from the CSIRO research team show the difference in sugarcane roots grown in compacted soil compared to uncompacted soil. They also show roots under magnification, where you can see that compaction has affected the cells of the root, including its central core, which is used for transporting water and nutrients.

There is more information on soil compaction on the SRA Soil Health Toolbox website sugarresearch.com.au/soilhealth,

(Above left) A comparison of Q151 roots in uncompacted soil (left) compared to compacted soil (right). (Above right) A microscopic view of sugarcane roots, showing healthy roots in uncompacted soil (top) compared to damaged roots in compacted soil (bottom).



including a soil compaction guide produced by MSF Sugar.

This work is occurring through the project, *Validating root system traits for enhanced nutrient capture in challenging environments* (2018/002). ■